

Remarks/Arguments

Claim Objections

The Examiner objected to informalities in Claims 10, 21, 23, and 24. Applicants have amended Claims 10, 21, 23, and 24 to remove the informalities. Applicants request that the objection be removed.

The Rejection of Claims 1, 5, 6, 8, 11-15, 19, 20, and 22-24 Under 35 U.S.C. §102(a)

The Examiner rejected Claims 1, 5, 6, 8, 11-15, 19, 20, and 22-24 under 35 U.S.C. §102(a) as being unpatentable by U.S. Published Patent Application No. 2004/0157704 (Stork) and German Patent Application No. DE 10228709A1 (Stork). Applicants respectfully traverse the rejection.

Anticipation requires that all of the elements of the claim be taught within the four corners of a single reference.

Claim 1:

Stork does not turn on a drive unit during a slipping state

Claim 1 recites: "... comprising the step of operating the starter generator between the two clutches to turn on the drive unit at a moment in time when the gearbox clutch changes into a slipping state and said power takeoff shaft is disconnected from the drive unit." Stork teaches adjusting a clutch: "Consequently, an object of the present invention is to provide a method for adapting the adjustment of a clutch in unconventional drive trains of a vehicle. The present invention is directed to such a method and indicate approaches such as clutch settings, a gripping or contact point or a coefficient of friction, for example, capable of being adapted according to changes occurring in operation or venting sequences capable of being performed." (col. 2, paragraphs 20 and 21). Stork teaches that the engine is either stopped or idling or the vehicle is creeping during the steps of his invention. For example, in independent Claims 1, 3, 4, 8-13, 15, 18-20, 23, 24, and 30. Claim 14, 16, and 17 activate the engine to generate a predefined torque

for purposes of adapting the clutch adjustment. None of the claims recite the above-mentioned element of Claim 1.

Regarding Figure 3, Stork teaches: "While in Section A only engine 2 was used as the driving element, which, however, is normally shut off for the situation typical to contact point adaptation, in the present case there is the possibility of *shutting off engine 2* (emphasis added), disengaging clutch 74, and using the motor/generator as the active element for contact point adaptation. (col. 5, paragraph 83).

There is no teaching in Stork to "turn on the drive unit at a moment in time when the gearbox clutch changes into a slipping state and said power takeoff shaft is disconnected from the drive unit." Therefore, Claim 1 is novel with respect to Stork. Claims 5, 6, 8, 11-15, 19 and 20, dependent from Claim 1, enjoy the same distinction from the cited reference. Applicants courteously request that the rejections be removed.

Claim 22:

Claim 22 recites substantially the above-mentioned elements of Claim 1. Applicants have shown that Claim 1 is novel with respect to Stork. Therefore, Claim 22 also is novel with respect to Stork. Claims 23 and 24, dependent from Claim 22, enjoy the same distinction from the cited reference. Applicants courteously request that the rejections be removed.

Rejection of Claims 3, 4, and 7 Under U.S.C. §103(a)

The Examiner rejected Claims 3, 4, and 7 under 35 U.S.C. §103(a) as being unpatentable over U.S. Published Patent Application No. 2004/0157704 (Stork) and German Patent Application No. DE 10228709A1 (Stork) in view of U.S. Patent No. 6,491,602 (Hoehn). Applicants respectfully traverse the rejection.

Hoehn does not cure the defects of Stork

Claim 1 recites: "... comprising the step of operating the starter generator between the two clutches to turn on the drive unit at a moment in time when the gearbox clutch changes into a slipping state and said power takeoff shaft is disconnected from the drive unit." Applicants have shown that Stork does not teach the preceding element of Claim 1. Hoehn discloses different

components and a different arrangement than recited in Claim 1: “The invention relates to a drive assembly, in particular for motor vehicles. Said assembly comprises a first drive source, in particular, an internal combustion engine and a second drive source, in particular, an electric motor. Said drive sources operate on a variable transmission as speed converters, whereby the first drive source is connected via a clutch to the transmission and *the second drive source is connected directly to said transmission* (emphasis added).” (Abstract). Hoehn does not teach a clutch between an electric motor and a crankshaft and does not teach, suggest, or motivate the preceding element of Claim 1.

Claim 1 is patentable of Stork and Hoehn. Claims 3, 4, and 7, dependent from Claim 1, enjoy the same distinction from the cited references. Applicants courteously request that the rejections be removed.

Rejection of Claims 1, 2, 14, 15, 19, 20, and 22-24 under U.S.C. §103(a)

The Examiner rejected Claims 1, 2, 14, 15, 19, 20, and 22-24 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,705,416 (Glonner) in view of U.S. Patent No. 6,808,470 (Boll). Applicants respectfully traverse the rejection.

Glonner and Boll do not teach the arrangement of Claim 1

Claim 1 recites: In a motor vehicle having a crankshaft starter generator operatively arranged *between an engine clutch and a gearbox clutch* (emphasis added) of a crankshaft, a drive unit, a clutch gearbox, and a power takeoff shaft...” Glonner teaches two electric machines and two clutches between the electric machines and the internal combustion engine: “Referring to the FIGS. 1, 2, a hybrid drive for a motor vehicle with a gear drive train 1 is presented in a very schematic way. These figures show a first electric machine 4 and a second electric machine 6 between an internal combustion motor 2 and a multi-gear, automatic transmission 3. The second machine 6 is directly and permanently connected to a transmission input shaft 5. *Between the electrical machines 4 and 6 and the internal combustion motor 2* (emphasis added) which, at times can be run as either a motor or a generator, *are respectively*

inserted clutches 7 and 8 (emphasis added). (col. 4, lines 11-19). Glonner does not teach a clutch between a generator and a crankshaft.

Boll teaches only an electric motor: “A motor vehicle drive includes an electric motor and at least one clutch in the drive line between the electric machine and the driven wheels of a motor vehicle. If the special case occurs in which high torques have to be supplied by the electric motor when the vehicle speed is very low or when the vehicle is stationary, the clutch is operated in a torque-transmitting slipping manner, ensuring that neither the electric machine nor the clutch are thermally overloaded.” (Abstract). Boll does not teach an internal combustion engine and the Claim 1 clutch arrangement.

Glonner and Bell do not teach, suggest, or motivate the arrangement recited in Claim 1.
Glonner and Boll do not turn on a drive unit during a slipping state

Claim 1 recites: “... comprising the step of operating the starter generator between the two clutches to turn on the drive unit at a moment in time when the gearbox clutch changes into a slipping state and said power takeoff shaft is disconnected from the drive unit.”

Glonner teaches: “In both arrangements, the first electric machine is provided to start the internal combustion motor 2 *whereby the first clutch 7 is closed, or slips* (emphasis added). Assuming *arguendo* that clutch 7 is analogous to the gearbox clutch of Claim 1, which it is not, Glonner teaches the opposite of Claim 1 – the engine is started to cause the slipping, not in response to the clutch slipping.

As noted *supra*, Boll teaches only an electric motor and therefore cannot teach any limitation regarding an internal combustion engine.

Glonner and Boll do not teach, suggest, or motivate the elements of Claim 1. Therefore, Claim 1 is patentable over Glonner and Boll. Claims 2, 14, 15, 19 and 20, dependent from Claim 1, enjoy the same distinction from the cited references. Applicants courteously request that the rejections be removed.

Claim 22:

Claim 22 recites substantially the above-mentioned elements of Claim 1. Applicants have shown that Claim 1 is patentable over Glonner and Boll. Therefore, Claim 22 also is

patentable over Glonner and Boll. Claims 23 and 24, dependent from Claim 22, enjoy the same distinction from the cited references. Applicants courteously request that the rejections be removed.

Rejection of Claims 3, 4, and 7 Under U.S.C. §103(a)

The Examiner rejected Claims 3, 4, and 7 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,705,416 (Glonner) in view of U.S. Patent No. 6,808,470 (Boll) as applied to Claims 1 and 22 above, and further in view of U.S. Patent No. 6,491,602 (Hoehn). Applicants respectfully traverse the rejection.

Hoehn does not cure the defects of Glonner and Boll

Claim 1 recites: "... comprising the step of operating the starter generator between the two clutches to turn on the drive unit at a moment in time when the gearbox clutch changes into a slipping state and said power takeoff shaft is disconnected from the drive unit." Applicants have shown that Glonner and Boll do not teach the preceding element of Claim 1. Hoehn discloses different components and a different arrangement than recited in Claim 1: "The invention relates to a drive assembly, in particular for motor vehicles. Said assembly comprises a first drive source, in particular, an internal combustion engine and a second drive source, in particular, an electric motor. Said drive sources operate on a variable transmission as speed converters, whereby the first drive source is connected via a clutch to the transmission and *the second drive source is connected directly to said transmission* (emphasis added)." (Abstract). Hoehn does not teach a clutch between an electric motor and a crankshaft and does not teach, suggest, or motivate the preceding element of Claim 1.

Claim 1 is patentable over Glonner, Boll, and Hoehn. Claims 3, 4, and 7, dependent from Claim 1, enjoy the same distinction from the cited references. Applicants courteously request that the rejections be removed.

The Objection of Claims 9, 10, and 16-18 as Being Dependent Upon a Rejected Base Claim

Claims 9, 10, and 16-18 were objected to as being dependent upon a rejected base claim, but the Examiner indicated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have shown that Claim 1 is novel with respect to and patentable over the cited references. Claims 9, 10, and 16-18, dependent from Claim 1, enjoy the same distinction from the cited references. Applicants courteously request that the objections be removed.

Conclusion

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,



C. Paul Maliszewski, P.E.
Registration No. 51,990
Simpson & Simpson, PLLC
5555 Main Street
Williamsville, NY 14221-5406
Telephone No. 716-626-1564

CPM/

Dated: September 6, 2005